

FIGURE 1 An UMTS Modem System Block Diagram, (Prior art)

FIGURE 1 is a block diagram of a UMTS Modem System. The system includes a MAC LAYER (15) connected to a UMTS MODEM (12). The UMTS MODEM (12) contains a UMTS MODEM TRANSMITTER (11) and a UMTS MODEM RECEIVER (13). The UMTS MODEM TRANSMITTER (11) is connected to the MAC LAYER (15) and receives data at R Mbps. The UMTS MODEM TRANSMITTER (11) is connected to a D/A converter, which is connected to a HYBRID circuit. The HYBRID circuit is connected to an antenna. The UMTS MODEM RECEIVER (13) is connected to the antenna via an LNA (Low Noise Amplifier) and an AGC Amp. (Automatic Gain Control Amplifier). The AGC Amp. is connected to an A/D converter, which is connected to the UMTS MODEM RECEIVER (13). The UMTS MODEM RECEIVER (13) is connected to the MAC LAYER (15) and outputs data at R Mbps. The UMTS MODEM (12) also includes an AFC Clock Recovery block (47) connected to the UMTS MODEM TRANSMITTER (11) and the UMTS MODEM RECEIVER (13).

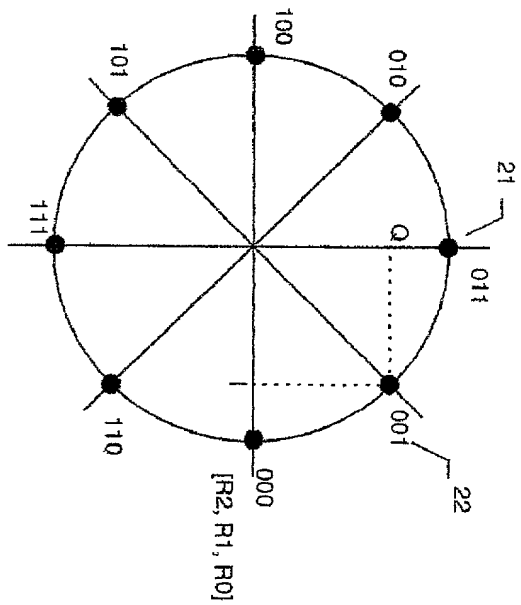
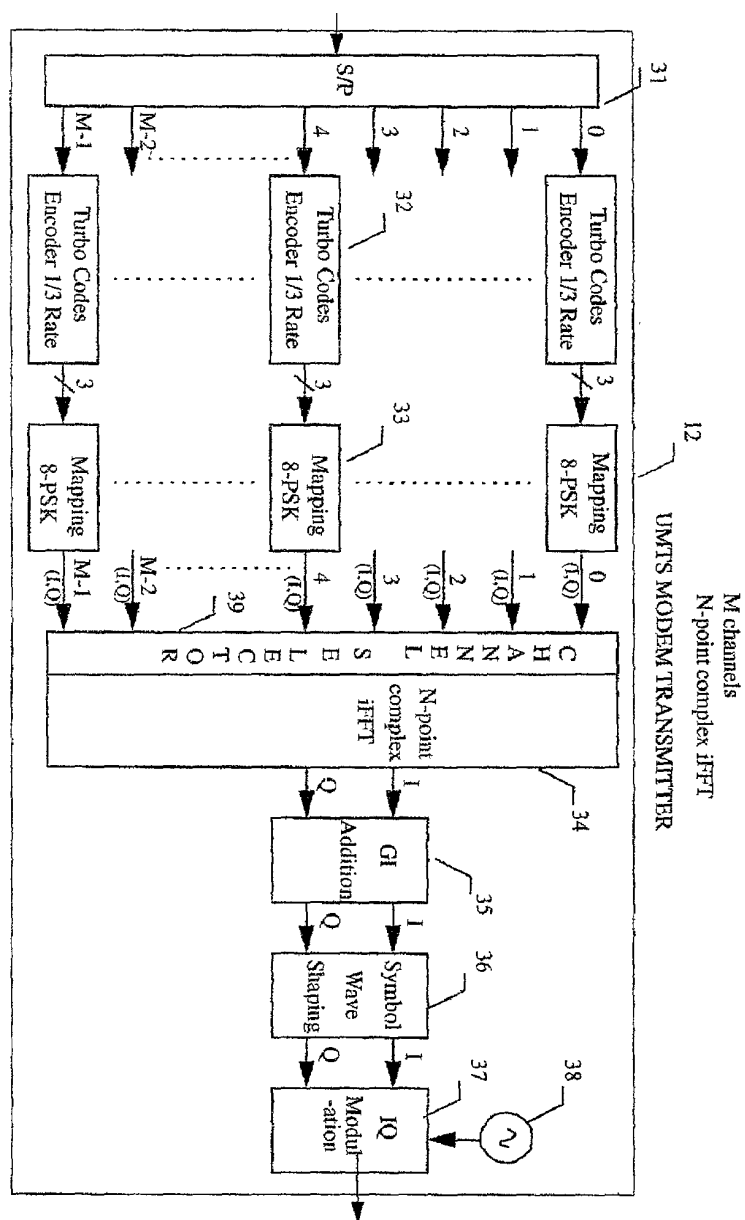


FIGURE 2. An 8-PSK constellations, (Prior art)

Table 1.

Symbol	I	Q
000	1.0	0.0
001	0.7071	0.7071
010	-0.7071	0.7071
011	0.0	1.0
100	-1.0	0.0
101	-0.7071	-0.7071
110	0.7071	-0.7071
111	0.0	-1.0

FIGURE 3. An UMTS Modem Transmitter Functional Block Diagram



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FIGURE 4. An UMTS Modem Receiver Functional Block Diagram

